

Exhibit 23-1(JB-1)

Joshua John Butler

Geotechnical Engineer

Education

M.S., Civil Engineering, Utah State University,
1997 B.S., Civil Engineering, Utah State
University, 1995

Professional Registrations

Professional Engineer: Idaho

Distinguishing Qualifications

- Performs foundation design for several bridge projects in Idaho and Oregon, involving driven pile, drilled shaft, spread footing, and micropile supported structures.
- Plans and supervises field explorations, including drilling, rock coring, cone penetrometer, and geophysical explorations. Experienced with field exploration programs in environmentally sensitive areas, including over-water work, helicopter access drilling, and steep terrain in remote areas.
- Experienced in geotechnical engineering including stability and settlement analyses, deep foundation design, and dewatering plans for wastewater plants, roadways, industrial facilities, and municipal development projects.
- Designs, installs and monitors instrumentation for embankments and retaining walls over soft soils and on sloping ground with landslide potential.
- Coordinates and supervises construction projects at hydropower and industrial process facilities.
- Provides oversight and inspection services during construction for transportation, wastewater, and environmental projects. Observed drilled shaft construction and pile driving, and supervised integrity and load testing of deep foundations.

Relevant Experience

Mr. Butler is a geotechnical engineer who works on transportation, water, and environmental projects. His technical skills include performing design of shallow and deep foundations in rock, and design of foundations in deep strata of soft compressible soils. He is also experienced in the seismic design of foundations, and in performing settlement and stability analyses for structures and embankments. Other technical experience includes evaluation of dewatering, rock excavation, and blasting

considerations. Mr. Butler has extensive experience in field and laboratory testing of soil. Mr. Butler's field experience includes planning and supervision of drilling, rock coring, and geophysical explorations; installation of water supply wells, monitoring wells, piezometers, sumps; and geotechnical instrumentation. He has also provided construction oversight for foundation improvement, pile driving, and earthwork on transportation and wastewater construction projects, and is OSHA certified for work on environmental hazardous waste projects. Mr. Butler is also an experienced surveyor.

Specific Project Experience

Nenana Canyon Pedestrian Bridge, Parks Highway—Alaska. Provided construction oversight of drilled shaft construction for a new pedestrian bridge over the Nenana River. Each shaft was 1.7-meters in diameter, and installed within the river channel to depths up to 30 meters below mudline. Involved as the engineer's representative charged with approving shaft excavation and verifying subsurface conditions.

U.S. 95, Worley to Mica, ITD—Idaho. Conducted field, laboratory, and foundation studies for realignment of U.S. 95 between Mica and Worley, Idaho. Work included residual strength determinations for landslide evaluation, MSE wall studies, and foundation design of five bridges. Design of these bridge foundations included spread footings and drilled shafts in highly fractured Columbia River Basalt, for a structure 33 meters in height. Also provided construction oversight, and installed and monitored instrumentation.

U.S. 95, Sandpoint North & South, ITD—Idaho. Coordinated CPT and limited access drilling for the preliminary field exploration for realignment of U.S. 95 near Sandpoint, Idaho. Work included field program cost estimation, laboratory coordination, and multiple, deep installations of geotechnical instrumentation.

U.S. 30, Topaz to Lava Hot Springs, ITD—Idaho. Assisted in the management of the field exploration and provided geotechnical design for the widening and realignment of approximately 21 kilometers of U.S. 30 in southeast Idaho. Explorations included drilling and rock coring, and geophysical testing. Much of the exploration was performed in winter weather, and included steep hillsides and helicopter-accessible drilling. Mud rotary drilling and rock coring adjacent to wetlands and the Portneuf River were successfully done with minimal disturbance and impact to these ecosystems. This project included slope stability for embankments up to 18-meters in height over soft, organic alluvial soils, and cut slopes up to 47 meters deep in highly weathered rock. The project also involved the design of eight new or replacement bridges, multiple types of retaining walls, and culvert replacement. Foundation design involved spread footing, driven pile, drilled shaft, and micropile design in basalt.

Federal Way, Overland to Broadway, Ada County Highway District—Idaho. Observed drilled shaft excavation and construction for a pedestrian bridge paralleling Federal Way in Boise, Idaho. Included coordinating and supervising cross-hole sonic logging of completed shafts, under tight construction schedule requirements.

N.E. 25th Avenue Reconstruction Project, Clark County—Washington. Setup and managed the exploratory field program and provided geotechnical design associated with widening and reconstruction of a 1.6-kilometer long roadway for Clark County, Washington. Work included the design of MSE, cast-in-place concrete cantilever, and soil nail retaining walls; design of water quality detention facilities; slope stability evaluation of cut and fill slopes.

Bumpus Reservoir, City of Wasilla—Alaska. Provided construction oversight of foundation construction, materials, earthwork, and specifications review for a 1.5-million gallon above ground water supply reservoir.

Gem State Hydroelectric, City of Idaho Falls—Idaho. Assisted with the evaluation of a subsidence problem at the Gem State Dam near Idaho Falls, Idaho. Supervised the exploration and testing, and designed and implemented repair of the transformer-bearing slab, and miscellaneous repairs around the facility.

Big Sand Wash Dam, Central Utah Water Conservancy District—Utah. Assisted in coordinating and supervising a geotechnical field exploration of an existing irrigation dam, for the purpose of raising the dam for increased capacity.

Marine Drive, City of Portland—Oregon. Designed a combination earthen and geofoam berm that served as a walking/bike path and sound barrier for a road improvement project situated adjacent to a sensitive wetland habitat. Work included historical data review and a current exploration and monitoring program to evaluate settlement impacts to existing utilities, liquefaction potential, and construction considerations.

Beef Bend Roadway Improvements—Portland, Oregon. Managed the exploratory field program for Washington County's Beef Bend-Elsner-Scholls-Sherwood road improvement project. The work involved coordinating the work of multiple subcontractors, complex permitting, and landowner issues. Also included design and construction inspection of wick drain installations, vibrating wire transducer installation, and long-term settlement monitoring for a 220-meter-long, 7-meter-tall embankment over soft, organic floodplain soil. Assisted with liquefaction analyses and mitigation in riverine and soft ground conditions.

S.H. 33, Canyon Creek Bridge, ITD—Idaho. Provided geotechnical evaluation and design of a triple-span, concrete bridge over a 33-meter deep canyon. Work included drilled shaft, driven pile, and spread footing design, and construction recommendations.

Wind Power Projects—Washington. Performing geologic and geotechnical

reconnaissance of subsurface conditions and potential geologic hazards for several projects in Washington.

ODOT District 1 Fish Culvert Replacement—Oregon. Managed exploratory drilling and performed design evaluation for various culvert replacement projects in coastal Oregon. Individual projects ranged from relatively short, cut-and-cover, 1-meter diameter culverts up to a 100-meter long, bore and jack, 2.4-meter diameter culvert.

Bridge Work—Oregon. Pile design and construction observation of steel H-piles for various concrete roadway bridges in western Oregon.

Surveying Experience—Idaho, Oregon, and Utah. Performed control surveys for orthophotographs and precision photogrammetric mapping control within 1/10 foot vertical and 3/10 foot horizontal, in canyon terrain. Investigated several sites for wetlands mitigation potential associated with highway expansion projects, including tasks of surveying for topography, cut/fill plans, and groundwater mapping. Managed the survey portion of a seismic mapping study requiring precision location/elevation measurements in difficult terrain. Conducted low-level GPS surveys for remote water storage and wetland mitigation projects.